

Main task	Foundation GCSE and Level 1/ 2 Functional Skills students Lower attaining students may find a 2010 calendar helpful Change the dates on Worksheet 1 as appropriate
Suggested uses	Independent or linked starters
Must previously cover	No prior knowledge necessary
Extension	None

Starter 1 (Worksheet 1)

Jack, Kevin and Lester share a house.
They all work the night-shift at a factory.

- Jack works every other night.
- Kevin works every third night.
- Lester works every Friday night.

None of them works on Wednesday 1st September 2010.
Kevin is at work on Thursday 2nd.

- (a) When is the next night that they are all at home?
- (b) What is the date of the first Saturday night when they are all home?
- (c) Who will be at work on November 5th?

Answers

Jack works even dates in September and October and then odd dates for the rest of the year.

Kevin works dates that are one less than multiples of 3 in September and October,
then two less than multiples of 3 for the rest of the year.

Lester works on the 3rd, 10th, 17th, 24th, 1st, 8th, 15th, 22nd, 29th, 5th, 12th, 19th, 26th, 3rd, ...

- (a) September 7th
- (b) September 25th
- (c) Jack and Lester will be at work.

Links to Level 1 and 2 Skills Standards

		Skills standard	Evidence
(a)	Ra	Understands problem and starts to access it	States at least 3 dates that one housemate is home or decides which of the three are at home for one date
	Aa	Uses mathematics to find a solution	Chooses correct date
(b)	Ab	Checking	Checks one Saturday night to see who is home
	Ib	Draws conclusions and gives justifications	Selects appropriate Saturday
(c)	Rb	Identifies the problem and decides on methods to use	Attempts to find pattern of dates through September, October and start of November for one housemate
	Rc	Chooses mathematics to find a solution	Shows pattern for all three
	Ib	Draws conclusions and gives justifications	Reaches appropriate conclusion

Links to GCSE

	Assessment Objectives			GCSE 4360			GCSE 4365	Linked Pair Pilot Methods and Applications			
	AO1	AO2	AO3	Unit 1	Unit 2	Unit 3	Linear	M1	A1	M2	A2
(a)		✓			N1.6		N1.6				N2
(b)		✓			N1.6		N1.6				N2
(c)			✓		N1.6		N1.6				N2

Starter 2 (Worksheet 2)

Jack, Kevin and Lester are writing a rota for cleaning the kitchen and bathroom.

- The rota is for Monday to Saturday only.
- Everyone has Sunday and two other days off a week.
- Each housemate cleans the kitchen twice a week.
- Each housemate cleans the bathroom twice a week.

Plan the rota.

Use the table to help you.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Bathroom							
Kitchen							
Off duty							

Answer

The table should be completed with J, K and L for every day except Sunday.

Each letter should appear exactly twice in each row.

For example,

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Bathroom	J	K	L	J	K	L	-
Kitchen	K	L	J	K	L	J	-
Off duty	L	J	K	L	J	K	-

Links to Level 1 and 2 Skills Standards

Skills standard		Evidence
Ra	Understands problem and starts to access it	Leaves Sunday blank
Ia	Interprets solutions to multistage problems	Satisfies all given criteria in their timetable
Ab	Checking	Checks have one of each name in each column

Links to GCSE

Assessment Objectives			GCSE 4360			GCSE 4365	Linked Pair Pilot Methods and Applications			
AO1	AO2	AO3	Unit 1	Unit 2	Unit 3	Linear	M1	A1	M2	A2
		✓	S5.3			S5.3	P4			